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MEMORANDUM

WATER POLICY INTERIM COMMITTEE 2015-16

May 3, 2016 Exhibit 9

Date: April 17, 2016

To: Water Policy Interim Committee

From: Abigail J. St. Lawrence

Subject: Change applications presentation at May 3, 2016 WPIC meeting

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Thank you for the invitation to present to you regarding the change application process at your May 3rd meeting. The purpose of this memo is to highlight two primary issues with the present change application process: the gaps or "dead zone" in the processing timeline and the application of the irrigation water requirements ("IWRs"). I attach to this memo the relevant statutes and regulations for your reference. The Chair has also asked that I discuss the impact of the 2010 Hohenlohe v. DNRC decision, dealing with how return flow analysis in conducted in change applications and other general issues in change applications. I attach hereto a copy of that decision as well. During my presentation, as time allows, I will also present a few concrete examples of how different change applications have been processed. Which examples I present is pending client permission to share their experiences.

1. Processing Timeline

As DNRC has previously acknowledged to this committee, there is a gap in the application processing timeline that leaves an indefinite time period open for a correct and complete determination after an applicant responds to a deficiency letter. This gap applies to both change applications and applications for new beneficial use permits. There are also gaps in the timeline when objectors come in to play. The timeline at present, with statutory cites is as follows:

- 180 days after application is received, DNRC shall notify applicant of any deficiencies in application. (MCA § 85-2-302(5))
    - If no notice to applicant of any deficiencies within 180 days of receipt of application, the application is treated as correct and complete.
- 90 days after receipt of deficiency notice, applicant responds to deficiency notice. (MCA § 85-2-302(6))
    - For new permit applications, if the applicant responds within 30 days of the deficiency notice, the priority date remains the date on which the application was submitted.
    - For new permit applications, if the applicant responds within 31-90 days of the deficiency notice, the priority date is the date on which the application is made correct and complete. (*Note—lack of clarity here as to whether this is the date on which DNRC deems the application correct and complete, or the date on which the applicant submitted responses to the deficiency notice.*)

- If the applicant does not respond to the deficiency notice within 90 days, the application is terminated. (MCA § 85-2-302(7))

GAP IN TIMELINE BETWEEN SUBMISSION OF RESPONSE TO DEFICIENCY NOTICE AND CORRECT AND COMPLETE DETERMINATION

- 120 days after the correct and complete determination, DNRC issues a written preliminary determination. (MCA § 85-2-307(2)(a)
  - If preliminary determination is to grant, application goes out for public notice for 15-60 days. (MCA § 85-2-307(3))
    - DNRC shall notify objectors of any deficiencies in objections. (MCA § 85-2-308(5))

GAP IN TIMELINE BETWEEN SUBMISSION OF OBJECTIONS AND NOTICE OF ANY DEFICIENCIES IN OBJECTIONS

    - Objectors have 15 days from the date of any deficiency notice to correct the deficiency.
    - A hearing shall be held on objections within 90 days of the deadline for objections. The hearing may be extended for good cause shown or upon the request of applicant and all objectors.
  - If preliminary determination is to deny, a show cause hearing is held unless the applicant withdraws the application. (MCA § 85-2-310(1)).
    - A determination is made by the hearing examiner within 90 day of the close of the administrative record. (MCA § 85-2-310(5))

There are other timelines that apply pursuant to administrative rule in the hearing process. There are also additional permutations of the above-detailed timeline if the preliminary determination to grant is overturned on a hearing on objections. Finally, if a decision by a hearing examiner is appealed to district court, that adds another layer to the process. However, the fundamental issue for purposes of this presentation is the lack of clarity highlighted in the above outline. This committee should consider legislation to address these two specific unclear deadlines, providing distinct guidelines for both applicants and DNRC.

2. IWR Application

In the change application process, an applicant is limited to changing that amount of water that the applicant has historically used. This is part of demonstrating that the applicant meets the "no adverse effect" criteria set forth in Mont. Code Ann. § 85-2-3111(1)(b). In determining historical use, DNRC applies, among other guidelines, IWRs to determine historical consumption under irrigation rights. Because calculation of the IWRs is quite detailed, I provide the full administrative rule setting out that calculation as an attachment to this memo.

The primary issue with application of the IWRs is that in application, they may result in a "trimming back" of an applicant's existing irrigation right. Even where the water right that is the subject of a change application has gone through the adjudication process and historical use has been determined by the Water Court, DNRC still goes through its own historical use analysis and applies IWRs to irrigation rights. *See*, Admin. R. Mont. 36.12.1902(2):

> Final Water Court approved stipulations and master's reports related to the water right being changed must be referenced with the application; however, this information or an abstract of a water right from the department or the Montana Water Court by itself is not sufficient to prove the existence or extent of the historical use.

This often results in a re-adjudication of sorts of existing water rights. This committee should examine DNRC's historical use analysis to protecting existing senior water users' ability to fully utilize their rights as adjudicated by the Water Court.

3. *Hohenlohe v. DNRC*—return flow analysis

The 2010 Montana Supreme Court decision in Hohenlohe v. DNRC involved a change application where a ranch north of Helena along Little Prickly Pear Creek and the Missouri River was changing from flood to sprinkler irrigation and wanted to preserve the water savings as instream flow to benefit a previously chronically de-watered portion of Little Prickly Pear Creek that was vital for restoring connectivity to the Missouri and maintaining the fish nursery in the creek. The project was supported by both Montana Fish, Wildlife and Parks and Montana Trout Unlimited, and the sole objector, an irrigator downstream of the Hohenlohes, withdrew when she realized that she was actually going to be receiving more water than she ever had before.

Despite the positive impacts of the project, DNRC denied that change application based on DNRC's determination that the Hohenlohes had submitted an incomplete return flow analysis and, therefore, had failed to show a lack of adverse effect. It was true that return flow patterns were changing as a result of the change from flood to sprinkler irrigation; water that had previously been diverted would be left instream, meaning that late-season return flow would not occur, as the water had never been diverted in the first place. The ironic part was that the change from flood to sprinkler irrigation, which was causing the change in return flow patterns, did not require a change application because the Hohenlohes were not changing the location of the acres irrigated. The only thing that triggered a change application requirement was that the Hohenlohes wanted to take the water saved in the shift from flood to sprinkler and protect it in stream for fisheries.

The Montana Supreme Court held that DNRC had "deviated from its own prior interpretation of § 85-2-408(7) in denying Hohenlohes' application." Mont. Code Ann. §85-2-408(7) reads as follows:

> The maximum quantity of water that may be changed to maintain and enhance streamflows to benefit the fishery resource is the amount historically diverted. However, only the amount historically consumed, or a smaller amount if specified by the department in the lease authorization, may be used to maintain or enhance streamflows to benefit the fishery resource below the existing point of diversion.

The Montana Supreme Court acknowledged that the return flow analysis should vary based on the facts of each particular case and the potential for adverse impact to downstream users. "The potential for adverse impact to downstream users appears negligible in the context of Hohenlohes' change application." Additionally, the Court noted that DNRC had previously allowed the entire diverted volume to be protected in instream flow, citing to *Authorizations Nos. 76F-30023056, Mannix Lease* (2007) and *76F 30011112, Hoxworth Lease* (2005). The Supreme Court concluded:

> It is untenable that a change of use applicant who incurs the considerable expense of installing a more efficient irrigation system in order to leave water instream—a beneficial use equal to any other recognized by the Montana Constitution—thereby risks losing a significant portion of the water he would have been allowed to divert had he continued to irrigate in an inefficient manner. Such an outcome frustrates the purpose of the instream flow statute, and does little to "encourage the wise use of the state's water resources." Section 85-2-101, MCA

The Court ultimately found that Hohenlohes had proven lack of adverse effect by a preponderance of the evidence and that DNRC's treatment of Hohenlohes' application ignored the practicalities of how the instream flow statute operates.

The Hohenlohe case demonstrates the problems with a strict and often impractical approach to applying the change application criteria. As Justice Wheat noted in his concurrence:

> The Department's actions with respect to this issue disregard the public policy mandate that the State "shall coordinate development and use of the water resources of the state so as to effect full utilization, conservation, and protection of its water resources." Section 85-1-101(3), MCA. The Department's adversarial approach does not further the goal that all water resources of the State be put to optimum beneficial use.

Justice Wheat also noted serious concerns with not only DNRC's substantive approach to application of the change of use criteria, but also treatment of applicants as well.

> [T]he Department's obstinate approach to this issue lacks common sense and courtesy. It gives the impression that the Department did anything it could to avoid given Hohenlohes a fair shake. Once again, the Department's actions paint it as an adversary that is not interested in effecting full utilization, conservation, and protection of Montana's water resources. The Department's obstinance in this case was both unfortunate and unnecessary.

Although DNRC has made some efforts to change its treatment of applicants, the bean-counter approach to applying change application criteria, ignoring the practical realities of the situation, persists. It would be worth this committee's time to examine how that approach could be remedied.

85-2-302. Application for permit or change in appropriation right. (1) Except as provided in 85-2-306 and 85-2-369, a person may not appropriate water or commence construction of diversion, impoundment, withdrawal, or related distribution works unless the person applies for and receives a permit or an authorization for a change in appropriation right from the department.

(2) The department shall adopt rules that are necessary to determine whether or not an application is correct and complete, based on the provisions applicable to issuance of a permit under this part or a change in appropriation right pursuant to Title 85, chapter 2, part 4. The rules must be adopted in compliance with Title 2, chapter 4.

(3) The application must be made on a form prescribed by the department. The department shall make the forms available through its offices.

(4) (a) Subject to subsection (4)(b), the applicant shall submit a correct and complete application. The determination of whether an application is correct and complete must be based on rules adopted under subsection (2) that are in effect at the time the application is submitted.

(b) If an application is for a permit to appropriate water with a point of diversion, conveyance, or place of use on national forest system lands, the application is not correct and complete under this section until the applicant has submitted proof of any written special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of water under the permit.

(5) The department shall notify the applicant of any defects in an application within 180 days. The defects must be identified by reference to the rules adopted under subsection (2). If the department does not notify the applicant of any defects within 180 days, the application must be treated as a correct and complete application.

(6) An application does not lose priority of filing because of defects if the application is corrected or completed within 30 days of the date of notification of the defects or within a further time as the department may allow, but not to exceed 90 days from the date of notification. If an application is made correct and complete after the mandated time period, but within 90 days of the date of notification of the defects, the priority date of the application is the date the application is made correct and complete.

(7) An application not corrected or completed within 90 days from the date of notification of the defects is terminated.

(8) Pursuant to 85-20-1902, the provisions of this section do not apply within the exterior boundaries of the Flathead Indian reservation.

History: En. Sec. 16, Ch. 452, L. 1973; amd. Sec. 2, Ch. 238, L. 1974; amd. Sec. 8, Ch. 485, L. 1975; amd. Sec. 4, Ch. 416, L. 1977; amd. Sec. 1, Ch. 470, L. 1977; R.C.M. 1947, 89-880(2); amd. Sec. 6, Ch. 448, L. 1983; amd. Sec. 12, Ch. 769, L. 1991; amd. Sec. 2, Ch. 370, L. 1993; amd. Sec. 1, Ch. 422, L. 1999; amd. Sec. 2, Ch. 78, L. 2001; amd. Sec. 1, Ch. 574, L. 2003; amd. Sec. 4, Ch. 213, L. 2007; amd. Sec. 2, Ch. 391, L. 2007; amd. Sec. 2, Ch. 335, L. 2013; amd. Sec. 7, Ch. 294, L. 2015.

85-2-307. Notice of application for permit or change in appropriation right. (1) Upon receipt of an application for a permit or a change in appropriation right, the department shall publish notice of receipt of the application on the department's website.

(2) (a) Within 120 days of the receipt of a correct and complete application for a permit or change in appropriation right, the department:

(i) may meet informally with the applicant, the persons listed in subsection (2)(d), and persons who may claim standing pursuant to 85-2-308 to discuss the application;

(ii) shall make a written preliminary determination as to whether or not the application satisfies the applicable criteria for issuance of a permit or change in appropriation right; and

(iii) may include conditions in the written preliminary determination to satisfy applicable criteria for issuance of a permit or change in appropriation right.

(b) If the preliminary determination proposes to grant an application, the department shall prepare a notice containing the facts pertinent to the application, including the summary of the preliminary determination and any conditions, and shall publish the notice once in a newspaper of general circulation in the area of the source.

(c) If the preliminary determination proposes to deny an application, the process provided in 85-2-310 must be followed.

(d) Before the date of publication, the department shall also serve the notice by first-class mail upon:

(i) an appropriator of water or applicant for or holder of a permit who, according to the records of the department, may be affected by the proposed appropriation;

(ii) any purchaser under contract for deed, as defined in 70-20-115, of property that, according to the records of the department, may be affected by the proposed appropriation; and

(iii) any public agency that has reserved waters in the source under 85-2-316.

(e) The department may, in its discretion, also serve notice upon any state agency or other person the department feels may be interested in or affected by the proposed appropriation.

(f) The department shall file in its records proof of service by affidavit of the publisher in the case of notice by publication and by its own affidavit in the case of service by mail.

(3) The notice must state that by a date set by the department, not less than 15 days or more than 60 days after the date of publication, persons may file with the department written objections to the application.

History: En. Sec. 17, Ch. 452, L. 1973; amd. Sec. 9, Ch. 485, L. 1975; R.C.M. 1947, 89-881; amd. Sec. 2, Ch. 357, L. 1981; amd. Sec. 9, Ch. 448, L. 1983; amd. Sec. 29, Ch. 526, L. 1983; amd. Sec. 3, Ch. 535, L. 1987; amd. Sec. 3, Ch. 370, L. 1993; amd. Sec. 5, Ch. 70, L. 2005; amd. Sec. 2, Ch. 251, L. 2009; amd. Sec. 1, Ch. 52, L. 2015.

85-2-310. Action on application for permit or change in appropriation right. (1) (a) If the department proposes to deny an application for a permit or a change in appropriation right under 85-2-307, unless the applicant withdraws the application, the department shall hold a hearing pursuant to 2-4-604 after serving notice of the hearing by first-class mail upon the applicant for the applicant to show cause by a preponderance of the evidence as to why the permit or change in appropriation right should not be denied.

(b) (i) Upon request from the applicant, the department shall appoint a hearing examiner who did not participate in the preliminary determination.

(ii) The applicant may make only one request pursuant to this subsection (1)(b) for a different hearing examiner.

(2) A proposal to grant a permit or change in appropriation right with or without conditions following a hearing on a proposal to deny the application must proceed as if the department proposed to grant the permit or change in appropriation right in its preliminary determination pursuant to 85-2-307.

(3) If valid objections are not received on an application or if valid objections are unconditionally withdrawn and the department preliminarily determined to grant the permit or change in appropriation right, the department shall grant the permit or change in appropriation right as proposed in the preliminary determination pursuant to 85-2-307.

(4) If valid objections to an application are received and withdrawn with conditions stipulated with the applicant and the department preliminarily determined to grant the permit or change in appropriation right, the department shall grant the permit or change in appropriation right subject to conditions as necessary to satisfy applicable criteria.

(5) The department shall deny or grant with or without conditions a permit under 85-2-311 or a change in appropriation right under 85-2-402 within 90 days after the administrative record is closed.

(6) If an application is to appropriate water with a point of diversion, conveyance, or place of use on national forest system lands, any application approved by the department is subject to any written special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of the water applied for and any terms, conditions, and limitations related to the use of water contained in any special use authorization required by federal law.

(7) (a) Except as provided in subsection (6), if the department proposes to grant a permit or change in appropriation right in modified form, the applicant must be given an opportunity to be heard. The addition of conditions or changes to conditions required for approval does not constitute a modification of the application.

(b) The department shall serve notice of a preliminary determination to grant a permit or change in appropriation right in a modified form by first-class mail upon the applicant, with a notice that the applicant may obtain a hearing pursuant to 2-4-604 to show cause by a preponderance of the evidence as to why the permit or change in appropriation right should not be preliminarily determined to be granted in the modified form by filing a request within 30 days after the notice is mailed. The notice must state that the permit or change in appropriation right will be preliminarily determined to be granted as modified unless a hearing is requested.

(8) The department may cease action upon an application for a permit or change in appropriation right and return it to the applicant when it finds that the application is not in good faith or does not show a bona fide intent to appropriate water for a beneficial use. An application returned for either of these

reasons must be accompanied by a statement of the reasons for which it was returned, and for a permit application there is not a right to a priority date based upon the filing of the application. Returning an application pursuant to this subsection is a final decision of the department.

(9) For all applications filed after July 1, 1973, the department shall find that an application is not in good faith or does not show a bona fide intent to appropriate water for a beneficial use if:

(a) an application is not corrected and completed as required by 85-2-302;

(b) the appropriate filing fee is not paid;

(c) the application does not document:

(i) a beneficial use of water;

(ii) the proposed place of use of all water applied for;

(iii) for an appropriation of 4,000 acre-feet a year or more and 5.5 cubic feet per second or more, a detailed project plan describing when and how much water will be put to a beneficial use. The project plan must include a reasonable timeline for the completion of the project and the actual application of the water to a beneficial use.

(iv) for appropriations not covered in subsection (9)(c)(iii), a general project plan stating when and how much water will be put to a beneficial use; and

(v) except as provided in subsection (10), if the water applied for is to be appropriated above that which will be used solely by the applicant or if it will be marketed by the applicant to other users, information detailing:

(A) each person who will use the water and the amount of water each person will use;

(B) the proposed place of use of all water by each person;

(C) the nature of the relationship between the applicant and each person using the water; and

(D) each firm contractual agreement for the specified amount of water for each person using the water; or

(d) the appropriate environmental impact statement costs or fees, if any, are not paid as required by 85-2-124.

(10) If water applied for is to be marketed by the applicant to other users for the purpose of aquifer recharge or mitigation, the applicant is exempt from the provisions of subsection (9)(c)(v). The applicant must provide information detailing the proposed place of use.

History: (1), (2)En. Sec. 20, Ch. 452, L. 1973; amd. Sec. 10, Ch. 485, L. 1975; amd. Sec. 5, Ch. 416, L. 1977; Sec. 89-884, R.C.M. 1947 (3)En. Sec. 16, Ch. 452, L. 1973; amd. Sec. 2, Ch. 238, L. 1974; amd. Sec. 8, Ch. 485, L. 1975; amd. Sec. 4, Ch. 416, L. 1977; amd. Sec. 1, Ch. 470, L. 1977; Sec. 89-880, R.C.M. 1947; R.C.M. 1947, 89-880(3), 89-884; amd. Sec. 3, Ch. 357, L. 1981; amd. Sec. 1, Ch. 399, L. 1985; amd. Sec. 4, Ch. 535, L. 1987; amd. Sec. 10, Ch. 659, L. 1991; amd. Sec. 4, Ch. 422, L. 1999; amd. Sec. 7, Ch. 70, L. 2005; amd. Sec. 20, Ch. 337, L. 2005; amd. Sec. 7, Ch. 213, L. 2007; amd. Sec. 5, Ch. 251, L. 2009; amd. Sec. 3, Ch. 29, L. 2011; amd. Sec. 3, Ch. 335, L. 2013.

36.12.1902 CHANGE APPLICATION - HISTORIC USE

(1) The description of the historic information is related to a date that is dependent on the type of water right being changed. The following dates are applicable for each type of water right:

(a) historic information for a statement of claim must be described as it was used prior to July 1, 1973, unless the Water Right Claim was subject to a previous change in which case it is the date of completion of the change;

(b) historic information for a provisional permit must be described as it was used at the filing date of the completion notice;

(c) historic information for a certificate of water right must be described as it was used at the filing date of the completion notice;

(d) historic information for an exempt or nonfiled water right must be described as it was completed prior to July 1, 1973; and

(e) when a change application has been granted on or after July 1, 1973, the department may request additional historic information for a statement of claim as it was used prior to July 1, 1973.

(2) Final Water Court approved stipulations and master's reports related to the water right being changed must be referenced with the application; however, this information or an abstract of a water right from the department or the Montana Water Court by itself is not sufficient to prove the existence or extent of the historical use.

(3) The amount of water being changed for each water right cannot exceed or increase the flow rate historically diverted under the historic use, nor exceed or increase the historic volume consumptively used under the existing use.

(a) The department may use column H in Table 1 for proposed irrigation to compare the historic consumptive use (HCU) to the amount of water being changed.

(4) The department shall compare historical acres irrigated to acres identified as irrigated in the Water Resources Survey, if available for the place of use. If the Water Resources Survey does not support the historical irrigation alleged in the application, the applicant shall explain why. Information from irrigation journals, logs, or old aerial photographs can be submitted for consideration.

(5) For an application to change multiple irrigation water rights, the total number of acres for each water right located within the place of use must be identified.

(6) For an application to change water rights that overlap the historic place of use, an applicant shall include those water rights in the change application or shall explain how each of the water rights has been historically used and how the unchanged water rights will be used if the change authorization were granted. If water will continue to be used at the historic place of use, the applicant shall explain how the continued use will not increase the combined historic maximum diverted flow rate, the historic diverted volume, and the historic consumptive volume.

(7) The department will corroborate the historic use, including the following of each water right being changed:

(a) water right number and the priority date;

(b) most recent year the water right was used;

(c) historic point of diversion;

(d) historic period of diversion;

(e) historic means of diversion;

(f) typical historic diversion schedule and operation pattern;

(g) means of conveyance;

(h) historic ditch capacity;

(i) maximum historic flow rate diverted from each point of diversion and how the amount was determined;

(j) historic place of use for each purpose;

(k) maximum number of acres historically irrigated;

(l) typical historic period of use for each purpose;

(m) annual or monthly historic diverted volume and how this amount was determined;

(n) the annual or monthly historic consumptive volume for each purpose;

(i) for irrigation, an applicant may choose to use the methodology described in (16); and

(ii) for irrigation, an applicant who chooses not to use the methodology described in (16), shall provide the factual basis for the historic consumptive volume calculation and why the historic consumptive use is less than or greater than the methodology described in (16);

(o) the historic efficiency including the diversion, conveyance, and overall system;

(p) the legal land description of a reservoir;

(q) the maximum volume in acre-feet of stored water;

(r) evaporation loss of stored water (evaporation standards can be found in ARM 36.12.116);

(s) maximum number of times a reservoir was filled during a year; and

(t) maximum period of time when water was legally collected for storage.

(8) The following information may be used by the department to establish the requirements under (7):

(a) aerial photographs depicting irrigated land:

(i) 1979, 1997, and 2005 photos showing the irrigated land;

(b) aerial or other photographs showing diversion or conveyance structures;

(c) Water Resources Survey book information;

(d) Water Resources Survey field notes;

(e) water commissioner field notes;

(f) Natural Resources Conservation Service (NRCS) information, such as field specific soils information;

(g) affidavits from persons with first-hand knowledge of historic use;

(h) calculation of historic ditch capacities;

(i) description of irrigation equipment, field treatments, means of conveyance, control structures, and other onsite features related to water use;

(j) description of water supply availability;

(k) log books or diaries of previous irrigators or farm operations, crop yield records, or diversion records; or

(l) an evaluation of the seniority of the water right in relation to other users.

(9) The annual or monthly historic diverted volume must be based on the appropriator's typical historic operation of their diversion, irrigation, and harvest schedule throughout the period of diversion and the period of use. If applicable, in addition to the information required in 36.12.1902(7), if a secondary diversion from a ditch or reservoir exists, an applicant shall identify the diversion means and the typical operation of that secondary diversion.

(10) The department shall calculate the historic diverted volume for water rights with the purpose of irrigation using the following equation: Historic Diverted Volume = ($Volume_{historic\ consumptive\ use}$/On-farm efficiency) + $Volume_{conveyance\ loss}$:

(a) "conveyance loss" means the portion of water diverted at the headgate that does not arrive at the irrigated place of use due to seepage and evapotranspiration from the ditch;

(b) "seepage loss" means ((flow area)*(ditch length)*(loss rate)*(days))/43,560 ft^2/ac; and

(c) "on-farm efficiency" refers to the percent of the water delivered to the field that is used by the crop.

(11) If the applicant chooses not to use the methodology in (10), they shall provide additional information on the Historic Water Use Addendum.

(12) Historic consumptive volume must be based on the acre-feet of water used for the beneficial purpose, such as water transpired by growing vegetation, evaporated from soils or water surfaces, or incorporated into products that do not return to ground or surface water.

(13) The following may be used to calculate ditch capacity, historic available water supply, and reservoir capacity:

(a) Manning's equation;

(b) Orsborn's equation;

(c) Blaney-Criddle equation; and

(d) the department will determine the acceptability of other reports or methods on a case-by-case basis.

(14) The historic consumptive use methodology that the department shall use to determine historic consumptive use for water rights with a purpose of irrigation is based on data from the United States Department of Agriculture (USDA) National Agricultural Statistics Service (NASS), and generated using the USDA NRCS Irrigation Water Requirements (IWR) program. If the applicant chooses not to accept the methodology used by the department, the applicant shall provide additional information on the Historic Water Use Addendum.

(15) IWR Data for Seasonal Alfalfa Evapotranspiration County Management Factor are shown in Table 1 and will be used by the department to identify the historic consumptive volume unless additional information is provided by the applicant on the Historic Water Use Addendum. If this table is used to establish the historic consumptive volume, the department will recognize that volume as a reasonable calculation, unless a valid objection is received which offers proof that the volume is inaccurate.

(16) To determine the historic consumptive volume using the table, the department will complete the following steps:

(a) determine which weather station (column B) is the most representative for the place of use (column C). The most representative weather station may not be in the county of the place of use, but must be nearby and about the same elevation and climatic conditions as the irrigated acres. A map showing the weather stations is located on the Internet at: http://dnrc.mt.gov/wrd/water_rts/default.asp;

(b) find the evapotranspiration inches based on whether the historic irrigation is flood, wheeline, handline, or center pivot, to estimate the historic IWR (columns D or E);

(c) identify the county in which the irrigated acres are located to determine the county management factor percentage (column F or G);

(d) multiply the IWR estimate found in column D or E by the management factor percentage in column F or G. The result is the number of inches used per irrigated acre;

(e) multiply the number of total acres within the historic place of use by the county adjusted inches used per irrigated acre calculated in (d) above to determine the historic consumptive inches for those acres; and

(f) divide the cumulative historic consumptive inches from (e) by 12 to determine the cumulative historic consumptive acre-feet for the total acres.

(g) If the historic consumptive volume determined by this methodology exceeds the historic diverted amount, the department may request additional information in order to resolve the discrepancy. This may result in a reduction of the consumptive volume.

Table 1 - Montana County Weather Station IWR Data for Seasonal Alfalfa Evapotranspiration and Montana County Management Factor.

Column

Column A	Column B	C	Column D	Column E	Column F	Column G	Column H
County	Weather Station	Elevation	IWR Flood Irrigation, Wheeline & Handline Seasonal ET (inches)	IWR Center Pivot Irrigation Seasonal ET (inches)	Management Factor Percentage 1964 – 1973 (pre-July 1, 1973 HCU)	Management Factor Percentage 1973 – 2006 (post-July 1, 1973 HCU)	Management Factor Percentage 1997 – 2006 (proposed use)
Beaverhead	Dillon	5239	18.34	20.74	63.7%	82.8%	88.3%
	Wisdom	6060	7.34	9.29			
	Jackson	6480	8.35	10.30			
	Lakeview	6710	8.39	10.67			
	Lima	6583	13.75	16.01			
Big Horn	Busby	3430	20.32	22.88	55.4%	78.7%	88.1%
	Hardin	2905	27.46	29.96			
	Hysham 25	3100	20.25	22.86			
	Wyola	3750	19.19	21.89			
	Yellowtail Dam	3305	28.07	31.30			
Blaine	Chinook	2420	20.80	23.57	58.7%	63.6%	66.0%
	Harlem	2362	21.62	24.27			
Broadwater	Townsend	3840	19.42	21.88	69.2%	79.5%	87.1%
	Trident	4040	20.64	23.31			
Carbon	Joliet	3776	22.41	25.12	58.3%	66.8%	70.8%
	Red Lodge	5500	15.57	18.41			
Carter	Ekalaka	3425	20.13	23.14	38.4%	54.7%	54.1%
	Ridgeway	3320	20.28	23.01			
Cascade	Cascade 20	4600	14.12	16.63	57.3%	70.0%	78.8%
	Cascade 5	3360	17.90	20.75			
	Great Falls	3675	19.78	22.55			
	Neihart	4945	12.17	15.08			
	Sun River	3340	18.10	20.65			
Chouteau	Big Sandy	2700	21.52	24.37	52.5%	64.9%	77.9%
	Fort Benton	2640	21.98	24.75			
	Geraldine	3130	20.30	23.27			
	Iliad	2950	21.55	24.27			
	Loma	2700	22.64	25.37			
	Shonkin	4300	13.32	16.70			
Custer	Miles City	2628	26.68	29.55	54.5%	72.0%	81.1%
	Mizpah	2480	23.80	26.57			
	Powderville	2800	24.83	27.68			
Dawson	Glendive	2076	26.01	28.99	56.8%	63.6%	72.0%
Deer Lodge	No weather station				See appropriate adjacent county		

Column A	Column B	C	Column D	Column E	Column F	Column G	Column H
			IWR Flood Irrigation, Wheeline & Handline	IWR Center Pivot Irrigation	Management Factor Percentage 1964 – 1973	Management Factor Percentage 1973 – 2006	Management Factor Percentage 1997 – 2006

County	Weather Station	Elevation	Seasonal ET (inches)	Seasonal ET (inches)	(pre-July 1, 1973 HCU)	(post-July 1, 1973 HCU)	(proposed use)
Fallon	Plevna	2780	22.48	25.34	47.6%	47.8%	47.6%
Fergus	Denton	3620	15.39	18.12	48.8%	65.8%	68.3%
	Lewistown	4167	15.54	18.44			
	Roy	3450	19.94	22.78			
	Winifred	3240	17.86	20.75			
Flathead	Creston	2949	14.97	17.81	87.6%	94.5%	96.6%
	Hungry Horse Dam	3160	14.66	18.06			
	Kalispell	2972	16.45	19.03			
	Olney	3165	12.50	15.16			
	Polebridge	3600	10.20	12.50			
	West Glacier	3154	13.74	16.78			
	Whitefish	3100	15.74	18.61			
Gallatin	Bozeman Exp Farm	4775	16.84	19.55	73.5%	92.1%	98.6%
	Bozeman MT State	4913	18.42	21.39			
	Hebgen Dam	6667	10.09	12.77			
Garfield	Cohagen	2710	22.36	24.99	43.4%	50.6%	46.1%
	Jordan	2661	23.58	26.32			
	Mosby	2750	24.51	27.34			
Glacier	Babb	4300	12.12	14.87	59.7%	73.6%	73.9%
	Cut Bank	3855	16.01	18.60			
	Del Bonita	4340	14.61	17.30			
	East Glacier	4810	10.60	13.26			
	St Mary	4560	13.64	16.60			
Golden Valley	Ryegate	4440	17.60	20.17	62.6%	65.5%	64.6%
Granite	Philipsburg Ranger Station	5270	12.90	15.26	86.5%	87.4%	96.6%
Hill	Fort Assinniboine	2613	22.42	25.20	54.1%	59.8%	60.4%
	Guilford	2820	19.54	22.06			
	Havre	2585	20.94	23.46			
	Simpson	2815	19.67	22.13			
Jefferson	Boulder	4904	17.08	19.47	61.0%	77.9%	81.1%
Judith Basin	Moccasin Exp Station	4243	16.17	19.06	49.3%	68.0%	68.8%
	Raynesford	4220	16.14	19.05			
	Stanford	4860	16.74	19.69			
Lake	Bigfork	2910	17.37	20.61	55.0%	69.2%	68.7%
	Polson	2949	20.46	23.23			
	Polson Kerr Dam	2730	21.37	24.08			

Column A	Column B	Column C	Column D	Column E	Column F	Column G	Column H

County	Weather Station	Elevation	IWR Flood Irrigation, Wheeline & Handline Seasonal ET (inches)	IWR Center Pivot Irrigation Seasonal ET (inches)	Management Factor Percentage 1964 – 1973 (pre-July 1, 1973 HCU)	Management Factor Percentage 1973 – 2006 (post-July 1, 1973 HCU)	Management Factor Percentage 1997 – 2006 (proposed use)
	St Ignatius	2940	19.53	22.33			

Lewis & Clark	Augusta	4070	17.51	20.13	60.1%	79.0%	79.7%
	Austin	4790	15.41	17.96			
	Helena	3828	20.23	22.69			
	Holter Dam	3490	23.88	26.61			
	Lincoln Ranger Station	4575	12.87	15.22			
Liberty	Chester	3132	19.28	21.74	54.8%	65.7%	63.9%
	Joplin	3300	19.01	21.40			
	Tiber Dam	2850	22.98	25.46			
Lincoln	Eureka Ranger Station	2532	20.63	23.26	47.1%	56.3%	58.8%
	Fortine	3000	16.09	18.69			
	Libby Ranger Station	2096	21.20	23.71			
	Libby	3600	11.06	13.36			
	Troy	1950	19.90	22.68			
Madison	Alder	5800	14.33	16.75	65.2%	79.0%	83.3%
	Ennis	4953	17.19	19.71			
	Glen	5050	17.81	20.01			
	Norris	4750	20.88	23.97			
	Twin Bridges	4777	16.98	19.22			
	Virginia City	5770	15.57	18.13			
McCone	Brockway	2630	20.74	23.35	43.7%	55.0%	60.6%
	Circle	2480	22.23	25.01			
	Fort Peck Power Plant	2070	25.37	28.16			
	Vida	2400	21.74	24.65			
Meagher	Lennep	5880	11.93	14.38	57.3%	70.4%	78.3%
	Martinsdale	4800	15.19	17.73			
	White Sulpher Spr	5060	16.41	18.89			
Mineral	St Regis Ranger Stn	2680	17.61	20.05	56.1%	63.3%	63.6%
	Superior	2710	21.94	24.54			
Missoula	Lindbergh Lake	4320	14.63	17.22	69.5%	67.5%	69.4%
	Missoula	3420	18.85	21.49			
	Missoula WSO AP	3199	19.45	21.89			
	Potomac	3620	14.05	16.26			

Column A	Column B	Column C	Column D	Column E	Column F	Column G	Column H
County	Weather Station	Elevation	IWR Flood Irrigation, Wheeline & Handline Seasonal ET (inches)	IWR Center Pivot Irrigation Seasonal ET (inches)	Management Factor Percentage 1964 – 1973 (pre-July 1, 1973 HCU)	Management Factor Percentage 1973 – 2006 (post-July 1, 1973 HCU)	Management Factor Percentage 1997 – 2006 (proposed use)
	Seeley Lake Ranger Station	4100	14.86	17.31			
Musselshell	Melstone	2920	24.22	27.17	50.0%	58.7%	56.2%
	Roundup	3386	23.98	26.79			
Park	Cooke City	7460	8.68	11.63	56.9%	66.1%	67.5%
	Gardiner	5275	22.46	24.70			

	Livingston	4870	16.59	19.41			
	Livingston FAA AP	4656	18.63	21.39			
	Wilsall	5840	13.20	16.01			
Petroleum	Flatwillow	3133	22.27	25.01	44.0%	50.0%	43.2%
Phillips	Content	2340	21.15	23.97	54.7%	54.7%	54.9%
	Malta 35	2650	20.28	22.99			
	Malta 7	2262	21.61	24.39			
	Port of Morgan	2830	20.15	22.72			
	Saco	2180	20.13	22.70			
	Zortman	4660	14.38	17.40			
Pondera	Conrad	3550	16.93	19.42	71.4%	81.0%	83.7%
	Valier	3810	18.31	20.96			
Powder River	Biddle	3597	21.87	24.66	38.5%	49.3%	53.3%
	Broadus	3032	23.03	25.69			
	Moorhead	3220	23.72	26.42			
	Sonnette	3900	18.32	20.96			
Powell	Deer Lodge	4678	13.14	15.32	77.6%	90.0%	100.0%[1]
	Ovando	4109	12.28	14.43			
Prairie	Mildred	2510	22.92	25.58	59.6%	73.6%	84.3%
	Terry	2248	22.82	25.47			
	Terry 21	3260	18.65	21.34			
Ravalli	Darby	3880	18.91	21.44	79.5%	88.6%	96.1%
	Hamilton	3529	19.93	22.34			
	Stevensville	3380	19.19	21.44			
	Sula	4475	12.09	14.42			
	Western Ag Research	3600	19.82	22.15			
Richland	Savage	1990	23.61	26.59	56.0%	72.9%	88.4%
	Sidney	1931	22.49	25.45			
Roosevelt	Bredette	2638	19.99	22.86	46.5%	64.9%	74.6%
	Culbertson	1942	20.84	23.73			
	Wolf Point	1985	24.16	27.03			

Column A	Column B	Column C	Column D	Column E	Column F	Column G	Column H
County	Weather Station	Elevation	IWR Flood Irrigation, Wheeline & Handline Seasonal ET (inches)	IWR Center Pivot Irrigation Seasonal ET (inches)	Management Factor Percentage 1964 – 1973 (pre-July 1, 1973 HCU)	Management Factor Percentage 1973 – 2006 (post-July 1, 1973 HCU)	Management Factor Percentage 1997 – 2006 (proposed use)
Rosebud	Birney	3160	24.57	27.29	47.7%	67.7%	72.7%
	Brandenberg	2770	23.83	26.52			
	Colstrip	3218	23.32	26.10			
	Forsythe	2520	25.17	28.04			
	Ingomar	2780	23.18	25.83			
	Rock Springs	3020	21.35	23.93			
Sanders	Heron	2240	14.82	17.73	58.8%	69.1%	62.8%
	Thompson Falls Power	2380	22.49	25.36			
	Trout Cr Ranger Station	2356	16.60	19.40			
Sheridan	Medicine Lake	1975	21.64	24.49	44.8%	68.5%	80.7%

	Plentywood	2063	20.64	23.48			
	Raymond	2384	19.13	22.04			
	Border Station						
	Redstone	2300	17.86	20.58			
	Westby	2120	18.10	21.033			
Silverbow	Butte FAA AP	5545	14.73	17.06	68.8%	90.3%	93.6%
	Divide	5350	15.25	17.58			
Stillwater	Columbus	3602	22.31	25.09	46.5%	62.9%	72.5%
	Mystic Lake	6544	13.57	16.57			
	Nye	4840	15.00	17.93			
	Rapelje	4125	20.35	23.07			
Sweet Grass	Big Timber	4100	20.60	23.47	44.7%	53.6%	49.4%
	Melville	5370	12.83	15.49			
Teton	Blackleaf	4240	14.74	17.34	68.8%	80.2%	88.4%
	Choteau Airport	3845	20.53	23.07			
	Fairfield	3980	19.10	21.76			
	Gibson Dam	4724	13.57	16.22			
Toole	Goldbutte	3498	16.30	18.96	51.8%	66.5%	70.8%
	Sunburst	3610	18.74	21.46			
	Sweetgrass	3466	18.22	21.22			
Treasure	Hysham	2660	25.01	27.78	53.4%	75.2%	91.5%
Valley	Glasgow WSO AP	2293	23.48	26.12	57.9%	66.6%	74.9%
	Hinsdale	2670	22.18	25.25			
	Opheim 10	2878	16.19	18.86			
	Opheim 16	3258	16.73	19.34			

Column A	Column B	C	Column D	Column E	Column F	Column G	Column H

County	Weather Station	Elevation	IWR Flood Irrigation, Wheeline & Handline Seasonal ET (inches)	IWR Center Pivot Irrigation Seasonal ET (inches)	Management Factor Percentage 1964 – 1973 (pre-July 1, 1973 HCU)	Management Factor Percentage 1973 – 2006 (post-July 1, 1973 HCU)	Management Factor Percentage 1997 – 2006 (proposed use)
Wheatland	Harlowton	4162	17.83	20.56	46.6%	58.7%	54.4%
	Judith Gap	4573	13.77	16.40			
Wibaux	Carlyle	3030	19.87	22.75	See appropriate adjacent county		
	Wibaux	2696	18.69	21.50			
Yellowstone	Billings Water Plant	3097	26.16	28.92	59.5%	71.4%	77.8%
	Billings WSO	3648	25.49	28.22			
	Huntley Exp Station	3034	21.92	24.61			

[1]The 1997-2006 county management factor was calculated to be slightly greater than 100%, therefore the 1997-2006 Management Factor is set to 100%.

(17) In addition to the amount determined by the methodology described in (14) and (15), the department will add the following consumptive loss components to account for irrecoverable losses at the field:

(a) 5% of the volume applied to the field for flood systems; and

(b) 10% of the volume applied to the field for sprinkler systems.

History: 85-2-112, 85-2-113, 85-2-302, MCA; IMP, 85-2-302, 85-2-401, 85-2-402, 85-2-407, 85-2-408, 85-2-436,

MCA; NEW, 2004 MAR p. 3036, Eff. 1/1/05; AMD, 2009 MAR p. 2259, Eff. 11/26/09; AMD, 2012 MAR p. 2071, Eff. 10/12/12; AMD, 2013 MAR p. 1344, Eff. 7/26/13.